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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,419	04/20/2004	Hiroshi Yuasa	MAE 310	2584

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EXAMINER	
NGUYEN, ANTHONY H	
ART UNIT	PAPER NUMBER
2854	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/18/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/827,419	YUASA, HIROSHI	
	Examiner	Art Unit	
	Anthony H. Nguyen	2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *18* is/are allowed.

6)☒ Claim(s) *1-17, 19 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1,8-17, 19 and 20 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Hino et al. (US 6,002,906) in view of Russel et al. (US 5,473,419).

With respect to claims 1, 8, 13, 14 and 15, Hino et al. teaches an image forming apparatus having an image forming unit 5-7 which includes a transport unit 2,5 and 8 for transporting the recording medium to the image forming units Pc, Pm, Py, Pk, a sensor (not shown, see Hino, col.9 lines 57-65) for sensing the type of recording medium, a return unit 9, 9a (Hino et al. , Fig.1) for reversing and feeding the medium to the image forming units for printing on other side of the printing medium and a control unit 301 for setting different transport speeds according to the types of recording media (Hino et al. , Fig. 7-12 and the paragraph bridging cols. 8 and 9). Hino et al. does not teach clearly the setting different transport speeds on the part of the return path. Russel et al. teaches the controller 100 for setting different transport speeds on the part of the return path 69 (Russel et al., Fig.1 and col.5 lines 51-55). In view of the teaching of Russel et al., it would have been obvious to one of ordinary skill in the art to modify the controller of Hino et al. by providing the controller which controls the transport speed for the recording media in the return path as taught by Russel et al. to improve the efficiency of transporting a recording media to a printing unit. With respect to

claims 9, 16 and 17, the selection of a desired speed which is slower or faster than a predetermined speed or other speed of the recording media would be obvious through routine experimentation in order to permit more precise control the feeding of a recording media in an image forming apparatus. With respect to claims 19 and 20, the selection of a desired different transport speed for different part of the feeding path is well known as exemplified by Russel et al. in col.8 lines 5-10. Note that the path shown in Fig.1 of Russel et al. (at the numeral reference 68) has a large curvature and the feeding speed of the sheet which enters the return loop 69 is faster after exiting the fuse station 84 and then the sheet is fed at a normal speed for entering the transferring station 62 in which the radius of the path is smaller than the path at the inverter 68 (Russel et al. col.8., lines 1-10). Also, note that the selection the desired speeds which are set for the radius of curvatures of a path would be obvious through routine experiment depending the type and characteristics of a sheet such as size, weight, thickness, material and the condition of the printing press such as humidity, age, etc.

Claims 2-7 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Hino et al. in view of Russel et al. as applied to claims 1,8-17, 19 and 20 above, and further in view of Kato et al. (JP 11-208962).

With respect to claims 2 and 4, Hino et al. Russel et al. teaches all that is claimed, except the thickness sensor and the stiffness sensor which are not clearly shown. However, the use of the thickness sensor and stiffness sensor in an image forming apparatus is well known in the art as exemplified by Kato et al. For example, Kato et al. teaches the conventional use of the media thickness sensor 22 and the stiffness sensor 10,41 as shown in Figs.2 and 3 of Kato et al. In view of the teaching of Kato et al., it would have been obvious to one of ordinary skill in the art to modify the image forming apparatus of Hino et al. and Russel et al. by providing the thickness sensor and the stiffness sensor for sensing the thickness and the stiffness of the recording medium as taught by Kato et al. for maintaining optimum print quality. With respect

to claims 3 and 5, the selection of a desired speed based on the predetermined thickness or the predetermine stiffness of the recording media would be obvious through routine experimentation in order to permit more precise control the feeding of the recording media. With respect to claims 6 and 7, Hino et al. teaches that the transport speed of the recording media can be changed based on the temperature in the image fixation (Hino et al. , col.8, lines 62-65).

Response to Arguments

Applicants' arguments filed on October 02, 2006 have been fully considered but they are not persuasive of any error in the above rejections.

Applicant argues that Hino et al. and Russel et al. do not teach the structure as recited in the claims. Specifically, applicant argues that Hino et al. and Russel et al. do not teach the transport speed which can be adjusted on the return path.

However, as explained above, while Hino et al. does not teach the sheets which are fed at a different speed on the return path, Hino et al. teaches the sheet transport speed which is set according to the type of medium, and Russel et al. clearly teaches that the transport speed of sheets can be set differently on the return path i.e., the sheet can fed faster on the return path again on the transfer station 62. Clearly, the image forming transport speed is different from the transport since the image belt 42 speed is slower than the sheet transport speed that is faster when the one side printed sheet enter the duplex path 69 via a station 62 (Russel et al., col.5, fourth paragraph). Therefore, combination of Hino et al. and Russel et al. renders obvious the structure as recited.

Applicant argues that there is no suggestion of relating the speed to the radii in the prior art as applied and that Fig.1 of Russel et al. is schematic so that the sheet is fed to an empty

space and that the routine experiment will not alter the basis performance as shown in the prior art.

It is noted applicant 's Fig.1A is not to a scale. In fact, applicant does not disclose any **specific** structure for the small radius or the larger radius, therefore, the selection of a desired different transport speed for different part of the feeding path a small or a large curvature would be obvious through routine experimentation in order to get best possible a desired sheet transport in a feeding path since it is not seen how the curvature as provided by both applicant and the applied prior art can result in any thing other than an approximation.

Conclusion

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

> A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Nguyen whose telephone number is (571) 272-2169.

The examiner can normally be reached daily from 9 AM to 5PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen, can be reached on (571) 272-2258.

The fax phone number for this Group is (571) 273-8300.

Anthony Nguyen
12/11/2006
Patent Examiner
Technology Center 2800